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Post-Crisis Bank Liquidity Risk Management Disclosure

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Abstract

Purpose – This work seeks to investigate what post crisis principles, banks have taken in a bid to manage liquidity risk. Its basis is founded on the ground that, the financial liquidity market was greatly affected during the recent economic turmoil and financial meltdown; when liquidity management disclosure was imperative for confidence building in depositors and shareholders.

Design/methodology/approach – The study investigates Basel II pillar 3 disclosures on liquidity risk management in 20 of the top 33 world banks. Bank selection is based on available information, geographical balance and language permissibility. Information is searched from the World Wide Web; with a minimum of one hour allocated for ‘content search’; notwithstanding time spell for ‘content analysis’. When information on liquidity risk management is found, content scrutiny is guided by 16 disclosure principles; clubbed in four categories.

Findings – Just 25% of sampled banks provide explicitly public accessible liquidity risk management information. This is a stark indication that, even in the post-crisis era, many top ranking banks do not still take seriously Basel disclosure norms; especially the February 2008 pre-crisis warning of the Basel Committee on Banking Supervision.

Implications/limitations – Stakeholders of banks should easily have access to information on liquidity risk management. Banks falling short of this might not breed confidence in customers and shareholders in event of financial panic and turmoil. Like in the run-up to the previous financial crisis, if banks are not compelled to explicitly and expressly disclose what measures they adopt in a bid to guarantee stakeholder liquidity ; the onset of any financial shake-up would only precipitate a meltdown. The main limitation of this study is; the World Wide Web is used as the only source of information for bank stakeholders.

Originality/value – The contribution of this paper to literature can be viewed from the role it plays in investigating what post-crisis measures banks have taken to inform stakeholders on how they manage liquidity risk.

Keywords: Post crisis, Liquidity risk management, Bank.

Paper type: Qualitative finance research paper.

JEL Classification: D80, E50, G00, G18.

1. Introduction

The palaver of liquidity risk management (LRM) has become increasingly vital in the banking industry, especially with the advent of financial meltdown and economic

down turn. During the recent crisis, increasing credit concerns and feeble market liquidity animated a cycle of deteriorating asset market values and deleveraging. Inter-bank lending came to a halt; credit risk and capital flight became the order to day-to-day. World authorities sort to find a solution as banks were on their knees in quest for liquidity; with interbank lending losing steam. Many financial institutions were bailed-out or restructured. The inability of a bank to meet up with its financial obligation/liability is a premise on which crisis may result. This issue may be due to deterioration in asset quality or general loss of confidence in financial institutions due to circumstances more or less related to the bank in question. It therefore becomes imperial for banks to develop policies and standards that best measure and manage their liquidity positions on an on-going basis; beyond this, it is also necessary to project how funding liquidity issues, in event of crisis could arise(stress testing and scenario analyses). In this paper we attempt to piece together standard practices of bank LRM, while keeping a close on ‘Basel II pillar 3’ disclosure criteria. The spirit behind leaning on Basel principles is founded on the premise that: in February 2008, the Basel Committee on Banking Supervision published ‘Liquidity Risk Management and Supervisory Challenges’¹. Shortcomings emphasized there-in spelled that, banks had failed to take account of a number of fundamental principles of LRM: a great many firms did not conduct stress tests and scenario analysis because they did not consider severe and prolonged liquidity disruptions as very likely. The ensuing financial meltdown only further justified and fortified this report. It is therefore our goal to investigate what post-crisis disclosure measures have been taken into account by top world banks.

2. Literature review

2.1 Literature on liquidity risk management

Measuring and managing liquidity go hand-in-glove; a good liquidity monitoring and measurement policy determines more or less management decisions on bank liquidity positions on an on-going basis; especially in periods of adverse scenarios like financial

¹The report emphasized that banks did not have an adequate framework that ideally accounted for the liquidity risk presented by individual products and business lines. Most banks did not take into consideration the amount of liquidity, crucial for contingency obligations.

crisis. A case in literature related to bank periodical liquidity management, especially during intra-day outages is the work of Merrouche and Schanz (2010); whose focus on the U.K payment system suggests that, early in the day, when settlement banks are not sure that their counter-parties to whom they make payments would pay-back, they stop doing so. In this wise, healthy banks remain unaffected by disruptions caused by operation outage, thus preventing affected banks acting as liquidity sinks. This is because, a bank with operational outage receives money both from the central banks and other banks but is unable to make payments due to more or less, an information and/or technology issue; this could pose a systematic risk if not sufficiently monitored at the beginning of the day.

Concerning the use of market positions, Dinger (2009), completely tests a hypothesis resulting from the works of Demirgüç-Kunt et al. (1998) and Detregiache and Gupta (2004), which support the thesis that, foreign banks have a stabilizing impact because they have access to diversified international sources of liquidity. He presents evidence that, transitional banks behavior significantly differs from that of local banks in the perspective that: during stable periods they hold less liquid reserves than local banks; and in crisis, hold more liquid reserves. He (Dinger, 2009) further justifies; transnational banks also smooth the local money market volatility in small emerging economies and help in integration of interbank markets. Qian et al. (2004), look at the problem from the view of a financial system design. In comparing banks in a dynamic economy, they find out: both the banking system and the market can provide partial liquidity insurance to investors. Evidence show: a full-participation market with intergenerational trading can provide more liquidity and insurance through wealth transfer across generations.

As regards some form of contingency planning, we might mention Ratnovski (2009), who stresses the need for a good lender of last resort policy; which should incorporate bank capital information and therefore reduce distorting rents. This arises because; this sub-optimal liquidity solution could be very costly in terms of rents if a proper assessment of their assets is not taking into account. Therefore, in compliance with this last resort lender requirement, he recommends much focus on ex-post positive capitalization than ex-ante liquidity. To put this perspective clear; banks with positive liquidity ex-ante of crisis that the central bank supports may not necessarily have positive

net worth ex-post; making sub-optimal liquidity solutions based on ex-ante liquidity positions unsustainable ex-post. It is therefore in the banks interest to insure; this policy is not conditioned on liquidity but in ascertained net worth; since quantitative liquidity requirement is very expensive.

Looking at what role country specific effects could play on LRM disclosure, Vento and La Ganga (2009) assess; disparity in regulatory and supervisory regimes across countries could significantly affect bank LRM and supervision. Our work will also seek to see how this hypothesis is applicable from a disclosure framework². Concerning cultural specific effects, we could mention Islamic banks, where-by; Ismal (2010) in an empirical survey on the Indonesian Islamic banking industry indentifies rational depositors sensitivity to interest rate return and higher portions of short term deposits (one month), as the main sources of liquidity palaver. Meanwhile liquidity instruments which help in attenuating these liquidity issues include (in decreasing order): borrowing from the Islamic money market; borrowing from parent company; withdrawing private placements from other banks; use of bank capital to cover demanded liquidity; selling of Islamic securities in secondary market; asking for depositors to wait for extra days and use of intra day emergency liquidity facility.

2.2 Literature on bank information disclosure

From a financial intermediary perspective, Chen and Hassan (2006) demonstrate that, improving banking transparency from the prism of increase in the precision of public signals³ may increase the likelihood of a contagious bank-run. However this inauspicious account, it suffices to reveal: other definitions for improvement in transparency exist. For instance, if transparency is defined as the way the banking system ameliorates the manner in which depositors know whether problems of failed banks are systematic or idiosyncratic in nature; then improvement of transparency from this angle should instead dwarf a contagious run. The skepticism of Chen and Hassan(2006) is shared by some authors. For instance, Cordella and Yeyati (1998) posit that, full transparency of bank risks, could lead to bank failure via increasing interest on deposits

² This will enable us investigate if banks within a given country have peculiar disclosure patterns.

³ For example, when banks invest at time '0', public signals about the projects are revealed at time '1'. However, the time interval between investment and public knowledge could still be sub-divided.

that could accrue from riskier positions. This risk of disclosure is further emphasized by Admati and Pfleiderer (2000), who assert that, when firms are positively correlated, disclosing information on one could affect others; especially if the revealed information can trigger a contagious run. A study that somewhat antagonizes this thesis is that of Demirgüç-Kunt et al. (2008), find out: banks in countries which better comply with Basel Core Principles related to information provision, receive more favorable Moody financial strength ratings.

Regarding what type of information our research might be concerned with, Boot and Thakor (2001), in asking the kind of information firms should voluntarily disclose, consider three types of disclosures: (1) information that complements that available only to informed investors; (2) information that complements that available to all investors; (3) a substitute to information that informed investors would have obtained themselves. From the perspective of this study, our search for information from the World Wide Web falls within the first and second categories; this is founded on the hypothesis that: “inside information can hardly be obtained from a public source”.

Therefore, the present work will aim to: (1) verify if banks have adopted more appealing post-crisis disclosure principles on LRM (Basel Committee on Banking Supervision, February 2008); (2) investigate if country regulatory and supervisory regimes, play a role in determining disclosure patterns (Vento and La Ganga, 2009); and finally (3) determine summarily whether such explicit disclosure is relevant for stakeholder confidence; as opposed to Chen and Hassan (2006).

3. Methods

3.1 Content search

By ‘content’, we refer to information on LRM. As shown on table I, the 20 selected banks are among the top 33; according to a recent classification⁴. Chosen banks are selected such that, their corresponding countries are members of the Basel Committee. We rely principally on the World Wide Web for information because: firstly, it is the most widely accessible source of information for present and potential stakeholders (clients and shareholders); secondly, most banks have an international

⁴ Rankings as of 11 August 2010; from Bankers Almanac.

character, which makes the web and particularly their websites, the turning point of any information concerning them. We sacrifice at least one hour in search for LRM information. This is on account of the fact that, we hypothetically assume ; on average, a present or prospective stakeholder should spend such amount of time perusing for such information. On the World Wide Web and corresponding websites, we use searching sentences like: “liquidity risk management”, “cash risk management”, “liquidity management”, “cash management”, “liquidity risk”, “Basel II pillar 3 disclosure”, “Basel II”, “pillar disclosure”.....etc. Targeted content from annual reports are post 2008.

3.2 Content analysis

This is a form of qualitative analysis that deals specifically with documents and texts. Understanding disclosures we find, falls within this framework. We endeavor to verify how well and far they reflect underlying disclosure principles below. LRM disclosures according to Basel II, pillar 3, should include: risk identification and assessment; risk management and mitigation; and risk monitoring and reporting. In perusal for and analysis of such, we focus on the following:

- development of a structure for managing liquidity; where: strategic risk management, tactical risk management, adequacy of information system, managing structure of liquidity strategy, role of directors and day-to-day management; constitute content analysis basis;
- measurement and management of net funding requirements; where, information on: establishment of a measuring and monitoring process, use of “what if” scenarios, and review of liquidity management assumptions; are crucial;
- management of market access and contingency planning; here clues on: managing market access, contingency planning, and stress testing and scenario analysis; are necessary;
- role of internal control, supervisors and public disclosure in improving liquidity management; constitute the last but not the least content analysis criterion.

Table I. Presentation of selected banks

Banks	World Rankings^o	Assets (million US\$)	Capital (million US\$)
1) BNP Paribas S.A(France)	1 st	2,952,221	35,955.52
2)Royal Bank of Scotland(United Kingdom)	2 nd	2,739,361	23,623.45
3)Credit Agricole(France)	3 rd	2,234,350	40,648.49
4)Barclays Bank Plc(United Kingdom)	4 th	2,226,593	4,606.81
5)Deutsche Bank(Germany)	5 th	2,153,033	2,279.77
6)Lloyds Banking Group plc(United Kingdom)	6 th	1,658,736	16,909.41
7)JP Morgan Chase and Co.(USA)	7 th	1,627,684	1,785.00
8)Banco Santander S.A(Spain)	8 th	1,593,298	5,902.44
9)The Bank of Tokyo-Mitsubishi(Japan)	9 th	1,494,350	12,000.15
10)Société Générale(France)	10 th	1,468,725	1,327.12
11)Bank of America-Merrill Lynch(USA)	11 th	1,468,725	1,327.12
12)ING(Netherlands)	12 th	1,441,673	731.50
13)UBS(Switzerland)	15 th	1,296,709	344.36
14)Bank of China(China)	16 th	1,281,409	37,181.63
15)The Sumitomo Bank(Japan)	20 th	1,162,096	6,670.54
16)Citibank(USA)	21 st	1,161,361	751.00
17)Bank of Scotland plc (United Kingdom)	23 rd	1,067,890	9,441.30
18)Credit Suisse(Switzerland)	25 th	997,705	45.46
19)Banca Intesa(Italy)	26 th	896,476	9,525.11
20)ABN Ambro Holding NV(Netherlands)	33 rd	673,379	2,657.10

Notes:^oRankings as of 11th of August 2010. Figures are consolidated and date on 31/12/2009. All countries above are member of the Basel Committee. U.S.A: United States of America. Source (Bankers Almanac).

Table II. Banks and Liquidity Risk Management Disclosure (LRMD)

Implicit or No LRMD	Explicit LRMD
BNP Paribas S.A(France)	Deutsche Bank(Germany)
Royal Bank of Scotland(United Kingdom)	UBS(Switzerland)
Credit Agricole(France)	Barclays Bank Plc(United Kingdom)
JP Morgan Chase and Co.(USA)	Lloyds Banking Group plc(United Kingdom)
Banco Santander S.A(Spain)	ING(Netherlands)
The Bank of Tokyo-Mitsubishi(Japan)	
Société Générale(France)	
Bank of America-Merrill Lynch(USA)	
Bank of China(China)	
The Sumitomo Bank(Japan)	
Citibank(USA)	
Bank of Scotland plc(United Kingdom)	
Credit Suisse(Switzerland)	
Banca Intesa(Italy)	
ABN Ambro Holding NV(Netherlands)	

Notes:U.S.A: United States of America. Source (author's synthesis)

4. Case Studies

Various case studies are analyzed based on whether their websites or the World Wide Web provides explicit or implicit/no LRM information. As summarized on table II, while fifteen banks do not have accessible information, five do. Banks with implicit LRM information mostly provide details on how they can help the client manage his/her liquidity. Their information is meant to inform clients on how well they can make their deposits profitably than, on what measures they will take to make sure they return their money upon demand (prevent liquidity risk). They use terms like :“we offer services to help you: consolidate your balances; understand your daily cash position; address short and long term research objectives; self direct or automate your investments”(Bank of America-Merrill Lynch, for example).Analyzed disclosures are synthesized on tables III, IV, V, and VI below.

Table III. Developing a structure for managing liquidity

Liquidity Management Principle(s)	Deutsche Bank	UBS	Barclays Bank plc	Lloyds Banking Group plc	ING
Day-to-day liquidity management strategy	“Our liquidity risk management approach starts at the intraday level (operational liquidity) managing the daily payments queue, forecasting cash flows and factoring in our access to Central Banks”.	“UBS continuously tracks its liquidity position and asset and liability profile over time” “In response to the market dislocation discussed above, UBS increased both its modeling and monitoring frequency”.	“The Group policy is that each operation must ensure that it has access to sufficient intraday liquidity to meet any obligations it may have to clearing and settlement systems”.	“Daily monitoring and control processes are in place to address both statutory and prudential liquidity requirements.”	“ALCO Bank has delegated day-to-day liquidity management to Financial Markets Amsterdam, which is responsible for managing the overall liquidity risk position of ING Bank...” “Within Financial Markets the focus is mainly on the daily and intraday cash and collateral positions and it is policy to sufficiently stagger day-to-day funding requirements”;
Role of directors	“The underlying policy, including the bank’s risk tolerance, is reviewed and approved regularly by the Management Board. The policy defines the liquidity risk limits which are applied to the Group”.	n.s.a	n.s.a	“Routine reporting is in place to senior management and through the Group's committee structure”	n.s.a
Management structure for liquidity strategy	-Short term liquidity -Unsecured funding -Asset liquidity -Stress testing and Scenario analysis	n.s.a	“Barclays Treasury operates a centralized governance and control process that covers all of the Group’s liquidity risk Management activities”.	-the group asset and liability committee -the senior asset and liability committee	-structural liquidity risk -tactical liquidity risk -contingent liquidity risk
Adequate Information system.	“Our cash flow based reporting system provides daily liquidity risk information to global and regional management”.	n.s.a	n.s.a	n.s.a	n.s.a
Tactical risk management	“It then covers tactical liquidity risk management dealing with the access to secured and unsecured funding sources”.	n.s.a	“Execution of the Group's liquidity risk management strategy is carried out at country level within agreed policies, controls and limits, with the Country Treasurer providing reports directly to Barclays Treasury to evidence conformance with the agreed risk profile”	n.s.a	“From a tactical, short-term perspective the liquidity risk resulting from the short term cash and collateral positions is managed”.
Strategic risk management	“Finally, the strategic perspective comprises the maturity profile of all assets and liabilities (Funding Matrix) on our balance sheet and our issuance strategy”.	n.s.a	“The objective of the Group's liquidity risk management strategy is to ensure that the funding profile of individual businesses and the Group as a whole is appropriate to underlying market conditions and the profile of our business in each given country.”	n.s.a	n.s.a

Notes: n.s.a: not specifically applicable. Source (author’s synthesis)

Table IV. Measuring and monitoring net funding requirements.

Liquidity Management Principle(s)	Deutsche Bank	UBS	Barclays Bank Plc	Lloyds Banking Group plc	ING
Establishment of measuring and monitoring process	“Our reporting system tracks cash flows on a daily basis over an 18-month horizon. This system allows management to assess our short-term liquidity position in each location, region and globally on a by-currency, by-product and by-division basis. The system captures all of our cash flows from transactions on our balance sheet, as well as liquidity risks resulting from off-balance sheet transactions”.	n.s.a	“The need to monitor, manage and control intraday liquidity in real time is recognized by the Group as a critical process: any failure to meet specific intraday commitments would have significant consequences, such as a visible market disruption”.	“Liquidity is actively monitored at business unit and Group level at an appropriate frequency. Routine reporting is in place to senior management and through the Group’s committee structure, in particular the group asset and liability committee and the senior asset and liability committee which meet monthly”.	“For the measurement and monitoring of the actual liquidity position the focus is on the daily cash and collateral position”.
Use of “what if” scenarios.	“In addition, we keep a dedicated strategic liquidity reserve containing highly liquid and central bank eligible securities in major currencies around the world to support our liquidity profile in case of potential deteriorating market conditions”.	n.s.a	“These stress scenarios include Barclays-specific scenarios such as an unexpected rating downgrade and operational problems, and external scenarios such as Emerging Market crises, payment system disruption and macro-economic shocks”.	“Firstly, the Group stress tests its potential cash flow mismatch position under various scenarios on an ongoing basis”.	“For this purpose ING Bank’s weekly and monthly liquidity positions are stress tested under a scenario that is a mix between a market event and an ING specific event”.
Review of liquidity management assumptions.	“As of year-end 2009 we have implemented a new reporting system which focuses on contractual cash flows from wholesale funding sources on a daily basis over a 12-month horizon”.	n.s.a	n.s.a	“The scenarios and the assumptions are reviewed at least annually to gain assurance they continue to be relevant to the nature of the business”.	n.s.a

Notes: n.s.a: not specifically applicable. Source (author’s synthesis)

Table V. Managing market access and contingency planning

Liquidity Management Principle(s)	Deutsche Bank	UBS	Barclays Bank Plc	Lloyds Banking Group plc	ING
Managing market access	<p>“Unsecured funding is measured on a regional basis by currency and aggregated to a global utilization report. The management board approves limits to protect our access to unsecured funding at attractive levels”.....“Liquidity outflow limits (Maximum Cash Outflow Limits), which have been set to limit cumulative global and local cash outflows, are monitored on a daily basis to safeguard our access to liquidity”.</p>	n.s.a	<p>“The Group maintains a portfolio of highly marketable assets including UK, US and Euro-area government bonds that can be sold or funded on a secured basis as protection against any unforeseen interruption to cash flow.” “Additionally, unsecured funding is managed within specific term limits. The term of unsecured liabilities has been extended, with average life improving by four months from eight months at the end of December 2007 to 12 months at the end of December 2008”.</p>	n.s.a	<p>“Holding a broad portfolio of highly marketable assets that can be used to obtain secured funding”. “Maintaining an adequate structural liquidity gap taking into account the asset mix and both the secured and unsecured funding possibilities of ING Bank”.</p>
Contingency planning	<p>“The strategic liquidity reserve amounts to EUR 54.9 billion as of December 31, 2009. This reserve is held in addition to the bank’s cash balance and the collateral the bank needs to support its clearing activities in euro, U.S. dollars and other currencies which are held in separate portfolios around the globe”.</p>	<p>“Combined with the broad diversity of its funding sources, its contingency planning processes and its global scope, these additional measures have proven extremely helpful in enabling UBS to maintain a balanced asset / liability profile, in spite of this period of unprecedented market dislocation”.</p>	<p>“The output informs both the liquidity mismatch limits and the Group’s contingency funding plan. This is maintained by Treasury and is aligned with the Group and country business resumption plans to encompass decision-making authorities, internal and external communication and, in the event of a systems failure, the restoration of liquidity management and payment systems”.</p>	<p>“the Group has a contingency funding plan embedded within the Group Liquidity Policy which has been designed to identify emerging liquidity concerns at an early stage, so that mitigating actions can be taken to avoid a more serious crisis developing”.</p>	<p>“Contingency liquidity risk relates to the organization and planning for liquidity management in times of stress. Within ING a specific crisis team is responsible for the liquidity management in times of crisis”.</p>
Stress testing	<p>“Stress testing is fully integrated in our liquidity risk management framework. We track contractual cash flows per currency and product over an eight-week horizon (which we consider the most critical time span in a liquidity crisis) and apply the relevant stress case to all potential risk drivers from on balance sheet and off balance sheet products. Beyond the eight week time horizon we analyze on a quarterly basis the impact of a change of business model out to 12</p>	<p>“This involves monitoring its contractual and behavioral maturity profiles, projecting and modeling its liquidity exposures under various stress scenarios and monitoring its secured funding capacity.”</p>	<p>“Stress testing is undertaken to assess and plan for the impact of various scenarios which may put the Group’s liquidity at risk.” “Treasury develops and monitors a range of stress tests on the Group’s projected cash flows. These stress scenarios include Barclays-specific</p>	<p>“the Group stress tests its potential cash flow mismatch position under various scenarios on an ongoing basis.” “Behavioral adjustments are developed, evaluating how the cash flow position might change under each stress scenario to derive a stressed cash flow position. Scenarios cover both Lloyds Banking</p>	<p>“For stress testing purposes the liquidity risk positions are calculated in line with the regulatory reporting requirements for liquidity risk of the Dutch Central Bank”.</p>

	<p>months. The liquidity stress testing provides the basis for the bank's contingency funding plans which are approved by the Management Board.</p> <p>Our stress testing analysis assesses our ability to generate sufficient liquidity under critical conditions and has been a valuable input when defining our target liquidity risk position. The analysis is performed monthly".</p>		<p>scenarios such as an unexpected rating downgrade and operational problems, and external scenarios such as Emerging Market crises, payment system disruption and macro-economic shocks. The output informs both the liquidity mismatch limits and the Group's contingency funding plan."</p>	<p>Group name specific and systemic difficulties".</p>	
Scenario analysis	<p>"As of year-end 2009 we also have introduced a scenario which combines a systemic market shock with a multi notch rating downgrade.</p> <p>Under each of these scenarios we assume that all maturing loans to customers will need to be rolled over and require funding whereas rollover of liabilities will be partially impaired resulting in a funding gap. We then model the steps we would take to counterbalance the resulting net shortfall in funding. Countermeasures would include the bank's long cash balance and unencumbered asset inventory as well as our Strategic Liquidity Reserve".....</p> <p>"The scenarios have been based on historic events, such as the 1987 stock market crash, the 1990 U.S. liquidity crunch and the September 2001 terrorist attacks, liquidity crisis case studies and hypothetical events. Also incorporated are new liquidity risk drivers revealed by the latest financial markets crisis: prolonged term money-market freeze, collateral repudiation, limited fungibility of currencies, stranded syndications, systemic knock-on effects and further liquidity risk drivers such as intraday liquidity risk".</p>	<p>"This involves monitoring its contractual and behavioral maturity profiles, projecting and modeling its liquidity exposures under various stress scenarios and monitoring its secured funding capacity".</p>			<p>"For this purpose ING Bank's weekly and monthly liquidity positions are stress tested under a scenario that is a mix between a market event and an ING specific event."</p>

Notes: n.s.a: not specifically applicable. Source (author's synthesis)

Table VI. Role of internal control, supervisors and public disclosure; in improving liquidity risk management.

Liquidity Management Principle(s)	Deutsche Bank	UBS	Barclays Bank Plc	Lloyds Banking Group plc	ING
Internal control	<p>“As of year-end 2009 we have implemented a new reporting system which focuses on contractual cash flows from wholesale funding sources on a daily basis over a 12-month horizon. The system captures all cash flows from unsecured as well as from secured funding transactions. Wholesale funding limits, which are calibrated against our stress testing results and approved by the Management Board; describe our maximum tolerance for liquidity risk. These limits apply to the cumulative global cash outflows and are monitored on a daily basis”.</p>	n.s.a	n.s.a	<p>“Liquidity is actively monitored at business unit and Group level at an appropriate frequency. Routine reporting is in place to senior management and through the Group's committee structure, in particular the group asset and liability committee and the senior asset and liability committee which meet monthly”.</p>	n.s.a
Role of supervisors	<p>Management directors are mentioned three times in a supervising role. No intermediate supervisors are disclosed.</p>	n.s.a	n.s.a	<p>“Routine reporting is in place to senior management and through the Group's committee structure, in particular the group asset and liability committee and the senior asset and liability committee which meet monthly. In a stress situation the level of monitoring and reporting is increased commensurate with the nature of the stress event”.</p>	n.s.a
Public disclosure	World Wide Web	World Wide Web	World Wide Web	World Wide Web	World Wide Web

Notes: n.s.a: not specifically applicable. Source (author's synthesis)

5. Discussion of Results

Much discussion on analyzed content of disclosures will be monotonous; as it will simply be literally recycling what is already much explicit and self explanatory on synthetic tables (III, IV, V and VI). As regards developing a structure for managing liquidity (Table III), Deutsche Bank appears to provide the most exhaustive information; among these, that which, all five banks take very seriously, is an intra day LRM strategy. The presence of an adequate information system is seldom elucidated (but for Deutsche Bank). Regarding net funding requirements, only UBS appears to be on the sideline. However, this difference is not any relevant when it comes to ‘market access and contingency planning’; which, all five disclosing banks take very seriously. As to what concerns the ‘role of internal control, supervisors and public disclosure; in improving liquidity management’, only Deutsche Bank and Lloyds Banking Group plc account for.

6. Conclusion

Our attempt to probe into post-crisis liquidity risk management disclosure; following pre-crisis shortcomings emphasized by the Basel committee on banking supervision have yielded results, not unexpected. The low rate of bank disclosure confirms a study by Chen and Hassan(2006), which shows that, banks do not take seriously, improvements in transparency of the banking system because it could breed chances of a contagious bank run. Our results also comply with Cordella and Yeyati (1998), from the prism that; full disclosure of bank risks could lead to bank failure via increasing interest rate. A further emphasis on relevance of results with respect to literature could be appreciated from Adamti and Pfleiderer (2000), on the premise that: disclosure of negative information could engender a contagious run and systematic collapse; especially when correlation between elements of the banking sector is highly positive. In response to hypotheses we put forward at on-set, we can conclude (based on liquidity risk management): (1) with respect to the World Wide Web, banks have not adopted more appealing post crisis disclosure principles; (2) country regulatory systems don't affect disclosure patterns ;(3) disclosure doesn't seem to be any relevant in

determining the content of stakeholder confidence; as banks do not still consider severe and prolonged liquidity disruptions as very likely.

As a policy implication; like in the run-up to the previous financial crisis, if banks are not compelled to explicitly and expressly disclose what measures they adopt in a bid to guarantee stakeholder liquidity ; the onset of any financial turmoil would only precipitate a meltdown.

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